UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,408	06/21/2001	Nobuhiko Miki	209657US2	3934

22850 7590 09/29/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
YUFA, ALEKSANDR L	
ART UNIT	**PAPER NUMBER**
2133	8

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/885,408	MIKI ET AL.	
	Examiner	Art Unit	
	Alex L. Yufa	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *11-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4, 7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification Objection

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Specification failed to provide proper antecedent basis in the detailed description of the preferred embodiments and/or drawings for " ...base station comprising a part generating ... ", "...the mobile station...", "...a part receiving ...", and "...the host station..." claimed in the claim 11, and "...a part transferring...", "...part receiving..." claimed in the claims 12, 13.

Correction is required.

2. The following is a quotation of the appropriate paragraphs of 37 CFR 1.71 that form the basis for the objection:

§ 1.71 Detailed description and specification of the invention.
(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

The disclosure is objected to as failing to describe, for example, the steps, such as: S10, S20, S14, S26, etc in Fig 1, and some analogous steps presented in Figs.2-4, 9, 10, and, for instance, steps, such as: S181-S186, S203-, etc. presented in Fig.11. Also, the disclosure is objected to because of the following informalities: "step S112" instead of "step S113" (see page 23, line 23).

Additionally, for example, "number of modulation levels", such as: "BPSK", "16 QAM", etc. in the table 2, and the others in the tables 2-5 are not described in the manner to comply with the enablement requirement. The mentioned subject matters

were not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Appropriate correction is required.

Abstract Objection

1. The abstract of the disclosure is objected to because is not descriptive, i.e. the invention is "Communication system employing ...", but abstract of the disclosure is not related to the titled apparatus.

Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1, 11-13 are objected to because of the following informalities:

a) claim 1 is objected to because is not descriptive, i.e. the invention is "Communication system employing ...", but preamble of the claim 1 is not related to the invention.

b) claims 11, 12, lines 1, 4 and claim 13, lines 1, 5 recite "a base station...a plurality of base stations" that is indefinite and fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claim 11, the limitations "...a part generating ... ", "...the mobile station...", "...a part receiving ...", and "...the host station..." are not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

According claims 12, 13, the limitations "...a part transferring...", "...part receiving..." are not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,844,918 to Kato.

Referring to claim 4, Kato teaches to transmit an ACK signals (see "... ACK/NACK ...is transmitted..." /column 14, line 35/), and to perform a control at the transmission end by "control information such as ACK/NACK" (column 14, lines 34, 35).

Claim 5 is rejected as depended from respective claim 4, hence inherit the deficiency in claim 4, and also as being anticipated by Kato. Kato teaches that "...error correcting operation ... with respect to the overall basic data that includes the basic data portion of a retransmitted packet, with use of the error correcting code including the basic data and the parity code, when the packet for which the retransmission request was made is retransmitted from the sending side." (column 5, lines 7-12).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,844,918 to Kato in view of Tanaka et al. (PCT Pub. No. WO98/58468 from 12/23/98).

Referring to claim 1, Kato teaches that "...control information such as ACK/NACK ... is transmitted over a channel ..." (column 14, lines 34-36) considering that "ARQ (Automatic Repeat Request) have been known as error control techniques in the field of digital communications" (column 1, lines 12-14 and, e.g. column 14, lines 13, 14). Kato does not explicitly point out to obtain and report reliability, but Tanaka et al. teaches to obtaining and "...amending the received encoded signal ... then conducting most likelihood decoding on a resultant signal, outputting a decoded signal together with information representing reliability of the decoded signal, and using the reliability information ..", and "... on the basis of a decoded signal having higher reliability out of the two decoded signals thus obtained, the transmitted encoded signal is reproduced. As a result, highly reliable signal reproduction can be conducted".

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato with the teaching of Tanaka by providing obtaining reliability of the received packet and reporting the reliability of the received packet, because one of ordinary skill in the art would simply use the well known technique of the transmitting/receiving information/data reliability evaluation, as Tanaka teaches, in order to provide authenticity of the transmitted/received information/data for communication systems using automatic repeat request.

Claims 2, 3 are rejected as depended from respective claim 1, hence inherit the deficiency in claim 1.

Also, according claim 2, Kato teaches that "the data memory 122 stores the transmission data packet ..." (column 9, line 31). Kato does not explicitly point out to reliability of the received packet, but Tanaka et al. teaches to amend the received encoded signal ... then conducting most likelihood decoding on a resultant signal, outputting a decoded signal together with information representing reliability of the decoded signal, and using the reliability information ..", and " ... on the basis of a decoded signal having higher reliability out of the two decoded signals thus obtained, the transmitted encoded signal is reproduced. As a result, highly reliable signal reproduction can be conducted".

Also, according claim 3, Kato teaches that "... control information such as ACK/NACK ... is transmitted over a channel ..." (column 14, lines 34-36).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to determine whether or not the received packet is to be stored on the base of the reliability of the received packet, and to perform a control of a transmission parameter, because one of ordinary skill in the art would use the well known technique of the transmitting/receiving information/data on the base of ACK/NACK, as Kato teaches, in order to provide authenticity of the transmitted/received information/data for communication systems using automatic repeat request.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,844,918 to Kato in view of Tanaka et al. (US 5,781,542).

Referring to claim 6, Kato teaches to provide "... communication from a base station to a terminal, [and] communication from the terminal to the base station. The terminal establishes bidirectional communication ..." (column 14, lines 22-24), "... generating a transmission data packet by the packet assembly circuit 12" (column 9, lines 31,32), "... ARQ communications system is provided with a data transmitter ... and a data receiver ..." (column 1, lines 45-47). Also Kato uses "control information such as ACK/NACK ..." (column 14, lines 34, 35). Kato does not explicitly point out to a plurality of station, thereby inherently does not limit the number of the station, but Tanaka et al. teaches to use a plurality of stations, e.g. as shown on Fig.1.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide transmitting an ACK signal and simultaneous receiving by a plurality of base stations a signal transmitted from a mobile station, generating the ACK/NACK signals at the plurality of base stations, and transmitting them to the mobile station, because one of ordinary skill in the art would modify Tako with the teaching of Tanaka by providing transmitting an ACK signal and simultaneous receiving by a plurality of base stations a signal transmitted from a mobile station, generating the ACK/NACK signals at the plurality of base stations, and transmitting them to the mobile station, considering the well known technique of the transmitting/receiving information/data on the base of ACK/NACK in order to provide authenticity of the transmitted/received information/data for communication systems using automatic repeat request.

Claims 7, 8 as depended from respective claim 6, hence inherit the deficiency in claim 6. Also, referring to claims 7, 8, Kato teaches to generate "the ACK/NACK signals ..." (column 14, lines 34, 35), and does not explicitly point out to obvious operation of determination the proper reception, when the mobile station receives the ACK/NACK signals, but Tanaka et al. teaches that "... communication mode determining means for adaptively determining a combination between a type of multi-level modulation scheme and the number of spread codes assigned to communication between the first and second information communication apparatuses, the combination being determined based on a traffic amount of the information communication system such that the combination enables an optimal transmission efficiency ..." (see e.g. column 11, lines 27-35).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide generating the ACK/NACK signals and determining the proper reception, when the mobile station receives the ACK/NACK signals, because one of ordinary skill in the art would modify Tako with the teaching of Tanaka by providing generating the ACK/NACK signals and determining the proper reception, when the mobile station receives the ACK/NACK signals in order to provide authenticity of the transmitted/received information/data and recognition of the mobile station in communication systems using ARQ.

The Examiner interprets claims 9 and 10 as being similar to claim 6, therefore claims 9 and 10 are rejected based on the same rationale thereof.

Referring to claim 11, Kato teaches to generate "the ACK/NACK signals ..." (column 14, lines 34, 35), and does not explicitly point out to a plurality of station, thereby inherently does not limit the number of the station, but Tanaka et al. teaches to use a plurality of stations for receiving the signals from the host station, e.g. as shown on Fig.1.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use part generating the ACK/NACK signals and a plurality of base stations, because one of ordinary skill in the art would modify Tako with the teaching of Tanaka by using part generating the ACK/NACK signals and a plurality of base stations receiving the transmitted signals, considering the well known technique of the transmitting/receiving information/data on the base of ACK/NACK in order to provide authenticity of the transmitted/received information/data for communication systems using automatic repeat request including a mobile station.

According claims 12, 13, claiming "a part transferring" and "a part receiving", Tanaka et al. (PCT Pub. No. WO98/58468 from 12/23/98) teaches to have the transmitting and receiving parts, e.g. as shown on Figs. 1A, 1B.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the transferring and receiving parts, because one of ordinary skill in the art would use the teaching of Tanaka

disclosed the transferring and receiving parts in the Information data multiplex transmission and error correcting system, considering the well known apparatus architecture for the transmitting/receiving information/data on the base of ACK/NACK in order to provide authenticity of the transmitted/received information/data for communication systems using automatic repeat request including a mobile station.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5,526,399 and US 5,559,813. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on _____.
(Date)

Typed or printed name of person signing this certificate:

_____

Signature: _____

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (703)_____ - _____ on _____.
(Date)

Typed or printed name of person signing this certificate:

_____

Signature: _____

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Yufa whose telephone number is 703-305-0715. The examiner can normally be reached on M-F 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-2394.

Alex Yufa, Ph.D.
Examiner
Art Unit 2133

aly

Gary J. Lamarre
for
Albert DeCady
Primary Examiner

REFERENCES

US 5,844,918
US 5,781,542